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REFERENCE: 785-A02-017-1

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Applicant(s): S. Jayaraman

Confirmation No. 4558

Application No.: 10/720,552

Group Art Unit: 1764

Filed: November 24, 2003

Examiner: Unknown

For: METHOD FOR MANUFACTURING A WIRE

STENT COATED WITH A BIOCOMPATIBLE

FLUOROPOLYMER

Docket No: 785-A02-017-1

- Request for Correction of Filing Receipt (2 pgs)
- Copy of Filing Receipt w/correction (2 pgs)
- Copy of Utility Patent Application Transmittal Sheet (showing priority claim)
- 4. Copy of Fee Transmittal for FY 2004 (showing number of claims)
- 5. Page 1 of the Patent Application (showing priority claim)
- 6. Page 7, 8, and 9 of the Patent Application (showing number of claims)

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PAGE 1/11 * RCVD AT 3/16/2004 3:36:29 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-2/3 * DNIS:7469195 * CSID:305 416 4489 * DURATION (mm-ss):03-40

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): S. Jayaraman Confirmation No. 4558

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Docket No: 785-A02-017-1

REQUEST FOR CORRECTION OF FILING RECEIPT

Commissioner for Patents Alexandria, VA 22313

Sir:

The above-identified patent application's priority data, total claims and independent claims on the Filing Receipt mailed March 12, 2004 are not correct. Please correct the Filing Receipt as indicated on the enclosed marked-up copy. Specifically, the priority data should read -- This application is a continuation of U.S. Application No. 09/672,422, filed September 28, 2000 PAT 6,652,574—, not "a DIV of 10/448,876 05/30/2003 which is a CIP of 09/990,616 11/21/2001 PAT 6,685,843". The total claims should be --20-- not "11" and independent claims should be --4-- not "1". Enclosed are copies of Utility Patent Application Transmittal Sheet, Fee Transmittal for FY 2004 and pages 1, 7, 8, and 9 of the Patent Application showing the correct priority data and number of claims.

Accordingly, as this error is solely attributable to an Office mistake, no fee is believed to be due for this Request. However, please charge any required fee to Deposit Account 500601 (Atty. Docket 785-A02-017-1).

Respectfully submitted,

Paul D. Bianco, Reg. # 43,500

Enclosures

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Page 1 of 2



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CONFIRMATION NO. 4558

33771 PAUL D. BIANCO: FLEIT, KAIN, GIBBONS, GUTMAN, BONGINI, & BIANCO P.L. 601 BRICKELL KEY DRIVE, SUITE 404 MIAMI, FL 33131



Date Mailed: 03/12/2004

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filling Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

Applicant(s)

Swaminathan Jayaraman, Fremont, CA;

Domestic Priority data as claimed by applicant

This application is a BIV-of-10/448,876-05/39/2003

which is a GIP of 00/090,010 11/21/2001 PAT 6,085,843
CONTINUATION OF U.S. Application No. 09/672, 422, filed. Foreign Applications SEPTEMBER 28, 2000, PAT 6,652, 574

If Required, Foreign Filing License Granted: 03/11/2004

Projected Publication Date: 06/17/2004

Non-Publication Request: No

Early Publication Request: No

** SMALL ENTITY **

Title:

Method for manufacturing a wire stent coated with a biocompatible fluoropolymer

Page 2 of 2

Preliminary Class

210

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CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application is a continuation of U.S. Application No. 09/672,422, filed September 28, 2000. Benefit of the earlier filing date is claimed in accordance with 35 U.S.C. §120.

BACKGROUND OF THE INVENTION

[0002] The present invention relates to wire stents and related vascular devices. More particularly, it refers to a stent or other vascular positioned device containing a wire coated with a biocompatible fluoropolymer.

[0003] My prior application includes stents made from interwoven groups of yarn filaments containing a wire. U.S. Patent No. 6,161,399 issued December 19, 2000 and entitled, "Process for Manufacturing a Wire Reinforced Monolayer Fabric Stent" is hereby incorporated by reference. In addition, U.S. Patent No. 5,961,545 describes wire stents immobilized longitudinally between tubes of expandable polytetrafluoroethylene. U.S. Patent No. 5,957,954 describes braiding a stent and a polytetrafluoroethylene textile strand sleeve together in an axial alignment. U.S. Patent No. 6,015,432 describes an endovascular tube made from woven graft material with a wire employed in openings in the weave. U.S. Patent No. 5,741,325 describes a self-expanding intraluminal prosthesis containing interwoven fibers including reinforcing wire. U.S. Patent No. 5,607,478 describes how to make a prosthesis from an expanded polytetrafluoroethylene (ePTFE) tube with a winding of PTFE.

[0004] It also is well known in the prior art to coat insulated wire with foamed fluoropolymer insulation as described in U.S. Patent No. 5,770,819. None of these prior art disclosures teach how to coat a wire used in a prosthesis with a porous expanded PTFE to create uniform expansion of the prosthesis.

SUMMARY OF THE INVENTION

[0005] I have now invented a process to improve my stent of U.S. Patent No. 6,161,399 by coating the plurality of wire strands of the stent with a porous expanded PTFE. The addition of expanded PTFE to the wire strand reduces platelet adhesion to the stent product. Restenosis will not occur since tissue and cells will not adhere to the expanded PTFE.

[0006] The process of this invention is achieved by pretreating a spool of wire to achieve a predetermined shape to the wire and returning the treated wire to its spool. The wire is then fed

What is claimed is:

A method for making a stent comprising:

heat treating a plurality of wire strands;

coating the wire strands with a biocompatible fluoropolymer in an extruder to produce a plurality of coated wire strands;

spooling the coated wire strands; and

interlacing the coated wire strands from separate spools into a tightly held together monolayer integrated tubular shape, the tubular shape adapted to have axial and radial compressibility for insertion into a cardiovascular, vascular or non-vascular system of a human body.

- 2. The method as defined in claim 1 wherein the wire strands include a material selected from the group consisting of stainless steel, tungsten, titanium, nickel-titanium alloy, gold, silver or a combination thereof.
- 3. The method as defined in claim 1 wherein the fluoropolymer is selected from the group consisting of PTFE, ePTFE, FEP or a combination thereof.
- 4. The method as defined in claim 1 wherein at least one wire strand is employed in a coil pattern.
- 5. The method as defined in claim 1 wherein interlacing the coated wire strands is carried out in a knitting machine.
- 6. The method as defined in claim 5 wherein a brake mechanism on a spool supplying one coated wire strand causes the spool to supply such coated wire stand at a slower rate than other spools supplying the other coated wire strands.
- 7. The method as defined in claim 1 wherein textile strands are interlaced between the coated wire strands.

- 8. The method as defined in claim 7 wherein the textile strands include a material selected from the group consisting of polyester, polypropylene, polyethylene, polyurethane, polytetrafluoroethylene or a combination thereof.
- 9. The method as defined in claim 1 wherein at least one wire strand is preheated in an oven to impart an intended shape prior to coating.
- 10. The method as defined in claim 1 wherein the tightly held together monolayer integrated tubular shape allows for the exuding of blood for proper lumen wall function.
- 11. A method for making a stent comprising: heating a plurality of wire strands to impart a desired shape to the wire strands; coating each wire strand with a biocompatible polymer in an extruder to produce a phurality of coated wire strands; and interlacing the coated wire strands to form a stent.
- 12. The method as defined in claim 11 further including regulating the speed of the wire strands in the extruder to provide a uniform coating.
- 13. The method as defined in claim 12 wherein interlacing includes braiding the coated wire strands in a braiding machine.
- 14. The method as defined in claim 13 further including spooling the coated wire strands onto spools, and wherein braiding includes removing the coated wire strands from the spools while braiding the coated wire strands in the braiding machine.
- 15. The method as defined in claim 14 further including regulating the speed of at least one of the spools at a slower rate than other spools.
- 16. The method as defined in claim 15 further including incorporating a fabric material between the braided, coated wire strands.

- 17. The method as defined in claim 16 further including preparing ends of the wire strands to prevent fraying.
- 18. The method as defined in claim 11 wherein interlacing includes knitting the coated wire strands in a knitting machine.
- 19. A method for making a stent comprising:

coating a plurality of wire strands with a biocompatible polymer and an adhesive in an extruder to produce a plurality of coated wire strands;

heating the coated wire strands to activate the adhesive; and interlacing the coated wire strands to produce a stent.

20. A method for making a stent comprising: interlacing a plurality of wire strands into a desired shape; heating the wire strands in the desired shape; removing the wire strands from the desired shape; coating the wire strands with a biocompatible polymer; and

interlacing the wire strands to form a stent.